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A NEW SPECIES OF *PHASCOLION* (SIPUNCULA)
FROM THE WESTERN NORTH ATLANTIC

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In Cutler (1967) a subpopulation of *Phascolion* was briefly mentioned as being distinct from *P. strombi* but was neither completely described nor named. At that time it was not absolutely certain whether this entity merited the rank of a new and distinct species. Subsequent study and consultation with Dr. V. V. Murina have convinced us that this is a unique, new form. Additional material has been included and a more complete description follows.

The specimens came from collections made by Sanders, Hessler, and Hampson (1965) and by the authors utilizing the R/V *Eastward*. These latter collections were made possible through participation in the Duke University Cooperative Oceanographic Program which is supported by N.S.F. Grant No. GS-8189.

***Phascolion microspheroidi* new species**

Diagnosis: A very small *Phascolion* lacking holdfasts and tentacles, commonly found in pteropod and scaphopod shells on the Continental Slope off Eastern North America.

Description: The 286 specimens are from 18 stations. These worms range from 1 to 4 mm in length and from 0.5 to 1.5 mm in diameter. They are translucent, thin-skinned with light brown pigmentation, and usually spherical. The introvert is smooth and almost equal in length to the trunk (Fig. 1A).

The introvert hooks are single-pointed and range from 0.04 to 0.056 mm high (Fig. 1B). On six specimens with fully extended introverts, tentacles were lacking but fleshy lobes were present. The trunk lacks attachment papillae with holdfasts. Two types of papillae are present.

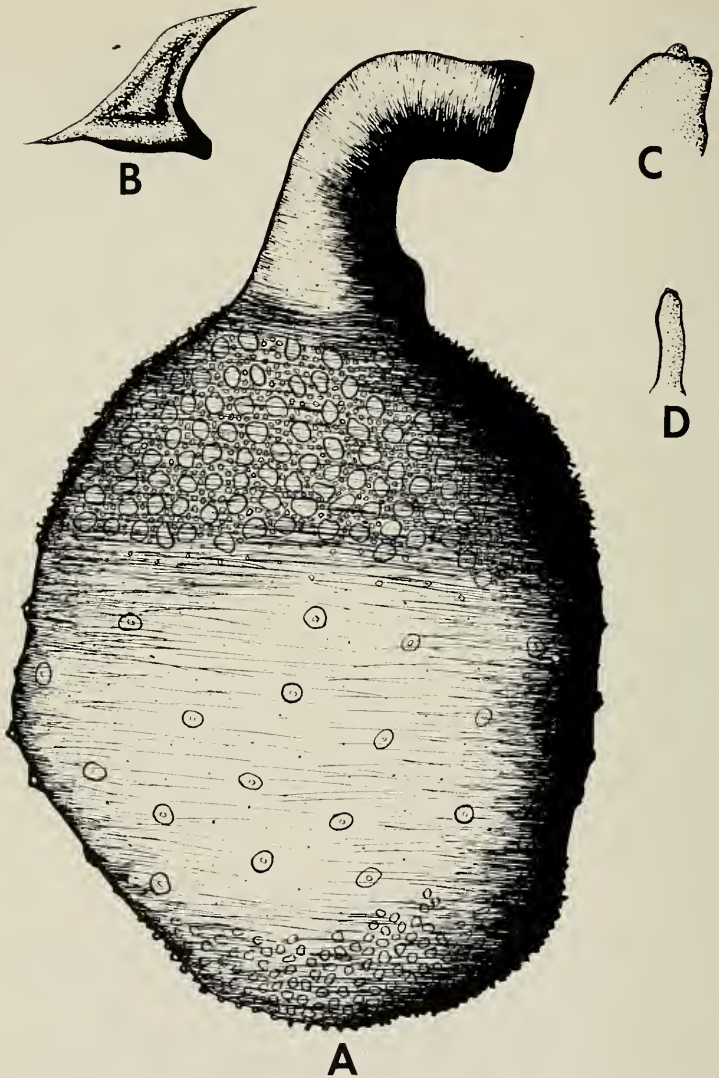


FIG. 1. External features of *Phascolion microspheroidi*. A. Whole animal with partially extended introvert (trunk 1-4 mm); B. hook (0.04-0.056 mm high); C. and D. papillae.

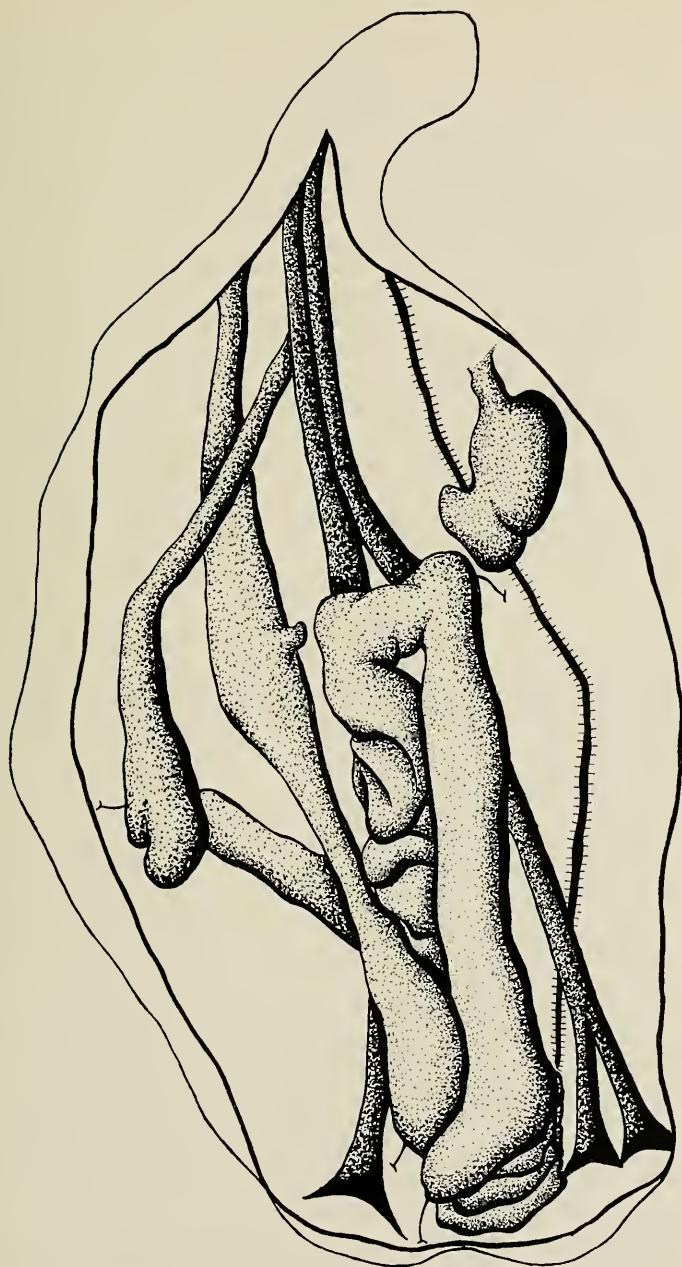


FIG. 2. Internal view of *Phascolion microspheroidi*.

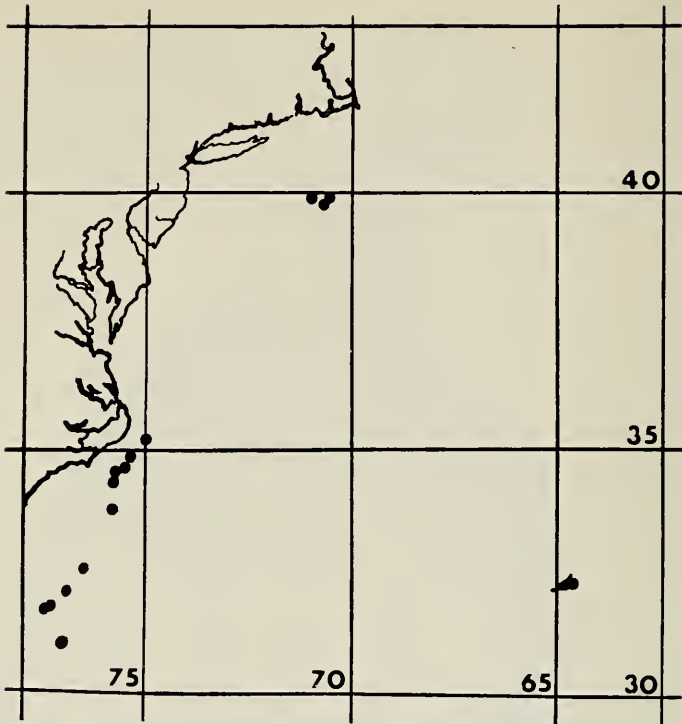


FIG. 3. Distribution of *Phascolion microspheroidi*.

The more common ones are small and oval shaped with a nipplelike tip (Fig. 1C). They are sparse in the middle of the trunk and more dense at the base of the introvert. The second type of papillae is slender, columnar, or spinelike, and found at the posterior end of the trunk as well as with the other papillae at the anterior. These range in height from 0.03 to 0.08 mm (Fig. 1D).

The beginning of the intestine is attached by a fixing muscle to the right midtrunk region. It continues posteriorly in three to six coils, loops forward where it is attached by a fixing muscle on the left side, and recourses in another loop which is attached to the end of the trunk by two fixing muscles. It then continues forward with a rectal diverticulum and a wing muscle present. The anus is slightly anterior to the nephridiopore. The single nephridium is unilobed and partially attached by a mesentery to the body wall (Fig. 2).

The two retractor muscles are of equal size and thickness. The ventral one originates by two roots at the end of the trunk to the right of the

ventral nerve cord. The dorsal retractor originates at the end of the trunk from one root which sometimes has a tendency to break apart into several distinct strands.

Remarks: The only other member of this genus which occurs in the same location is *P. strombi*. Externally these two differ in the nature of papillae and tentacles. *P. strombi* has well-developed tentacles and attachment papillae, both of which are lacking in *P. microspheroidi*. In the genus *Phascolion*, the only other species having two retractor muscles of equal strength, hooks present, attachment papillae absent, and lacking tentacles is *P. beklemischevi* (Murina, 1964). *P. beklemischevi* differs, however, by having hooks with a blunt lobe at their tip.

Distribution: This species was found between 487 and 1,700 m on the Continental Slope of the east coast of the United States between 31°49' and 39°57' north latitude, with one small specimen on the Bermuda Slope (Fig. 3). The sediment is silt and sand; although this may not be important as the animal is usually found sheltered in pteropod and scaphopod shells resting on the surface of the sediment. The temperature ranges from 3.5 to 6°C.

Holotype: USNM 44754; Location, 39°49'N, 70°41'W; Depth, 1,102 m; Collected 6 July 1964 by Sanders, Hessler and Hampson, station number 87.

LITERATURE CITED

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